

### Bradford calls for fees fight conference

by Judith Judd  
Bradford University this week took the lead in the fight against increased tuition fees by inviting all other universities to a joint conference on the problem.

As student militancy over fees swept through the country, Bradford, which has already decided not to charge higher fees for overseas students, sent out letters calling for a joint action.

Most universities are still considering the letter but Warwick has already agreed to the conference. Dr John Butterworth, Warwick's vice-chancellor, addressed a meeting of the National Union of Students last week.

Members of the Lancaster University branch of the AUT have also voted to withdraw their services in the event of another occupation. At University College, Cardiff, there were acollies as staff tried to break up an occupation.

In the polytechnics, there were also signs that staff and students are coming together on the question. Dr George Branson, director of the North East London Polytechnic, offered occupying students there a conference to which representatives of the Department of Education and Science and other polytechnics would be invited.

In Leeds the polytechnic's governing body has sent a strong recommendation to the local authority not to implement the fees for supporting students and new charge discriminatory fees to overseas students.

Lancaster Polytechnic, in a resolution passed by Coventry City Council, has urged the Association of Metropolitan Authorities and the Association of County Councils to work for the retention of the present fee structure until a logical basis has been developed.

In some places the week's events centred on conflict between students and staff. Members of the Association of University Teachers at Sheffield University voted by 179 to 51 to withdraw all services to students, including teaching, from noon on Tuesday.

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### Question mark on AUT pay policy support

All unions involved in education seem likely to support phase three of the Incomes policy, except the Association of University Teachers.

Officially the AUT has "an open mind", but if the phase three package does not allow it to pay more than the rest of the public sector, a strong feeling against restraint might be shown at the AUT council's May meeting.

The union would cut its TUC vote against restraint if other groups received "alive-the-other" benefits while the AUT, which still believes itself unjustly treated by the Government two years ago, has no chance to demand more.

Last month, Mr Peter Newsam, the ILEA's education officer, produced a report suggesting that either Avery Hill, Eilham or Shoreditch would have to close and that he favoured Shoreditch.

It is believed that the ILEA has been using Shoreditch in its fight to get away from teacher training for London. If the Brunel scheme

### Brunel merger may save Shoreditch from closure

Shoreditch College, Egham, may escape closure by joining Brunel University. The university has been asked to consider the scheme by the Department of Education and Science.

The DES acted to save the likely victims of the cutbacks in initial teacher training places planned by the Inner London Education Authority because the college is a major producer of handicraft teachers, as craft is a shortage subject, its closure would have serious effects nationally.

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### Cuts approach attacked

Professor Ralf Dahrendorf, director of the London School of Economics, has criticized the look of consultation in the wider question, but to repeat a point which I made in an earlier column, in various articles, in contributions to discussions in many relevant places, that the tuition fee increases, the method of their announcement as well as their level, in my view border on the irresponsible.

Even apart from the question of differentials, they change the system of university finance by itself, and produce an anti-postgraduate and anti-overseas policy through the back door, placing additional burdens on local authorities in the process. It takes either great cynicism or great ignorance to intrude such a system, and the sooner it is thoroughly revised the better.

When I first said this, students were silent. When two successive Secretaries of State announced the fee last year there was no uproar understandable, for only a minority are affected by the change in system, and those affected are not the poor—but the relatively well-to-do who find it increasingly difficult to cope for the contributory social services.

Not one British working-class child is deprived of tertiary education by the new system of fees, although some may find postgraduate education, or midway changes of subject, or midway changes of university, a little more difficult than I do. I see this to offer excuse for an increase in fees, but it is not a rational one.

For what this is about (I believe) and so to opt want to claim certainty for what is essentially a tentative application of existing principles to the status quo, of existing privileges perhaps, against threats to some which feed the latest form of many higher education that things will

### Two-pronged attack on polys

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"I hope that local education authorities will not let such financial considerations prevent polytechnics and colleges of education, which have teachers available, from making a contribution to providing courses for the young unemployed."

Mrs Williams checked the polytechnics for the disappointing level of expansion in part-time education. She told the conference she hoped higher education, expanding over the next few years.

The polytechnics had increased their enrolments in part-time students on advanced courses from about 45,000 in 1965 to 54,000 in 1975. But "in many cases this is the only type of course that mature students can manage and it is now essential that those opportunities are open to them."

Sandwich students represented nearly one third of all polytechnics, said Mrs Williams. She was aware of the difficulties of



### Ralf Dahrendorf compares the student troubles of 1977 and 1968 Fear is spur behind this unrest

There is no need to be surprised that a brief period in which students seemed to come to have quieted down last year.

When I set through the disruption of the tenth anniversary celebration of my old University of Cologne last year, heard the stories of Italian and Dutch students, saw the graffiti in Leuven a few weeks ago (including a rather funny one: "On Lenin's return I shall be a member of the British Government's strange decision on tuition fees to predict what would happen in the livelier universities of the country during the carnival season).

The surprising fact is what the New Realism is about, for its objectives are totally different from those of the late 1960s, and they mirror a development in the educational scene which is dramatic and disturbing.

Before I offer a few comments on the wider question, I do repeat a point which I made in an earlier column, in various articles, in contributions to discussions in many relevant places, that the tuition fee increases, the method of their announcement as well as their level, in my view border on the irresponsible.

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those responsible for the school felt they had to put up gates in order to protect the library, and perhaps the staff, from the expanding mass of students sitting in and demystifying all over the place.

During the recent occupation of the LES administrative buildings, one of the more striking features was the fact that although students were at all times allowed free access to the occupied area and nobody tried to force his way in, they themselves began at an early date to lock and chain doors, and to erect barricades of filing cabinets and chairs—a rather pathetic sight that, and yet the rebels of the 1970s probably are frightened and insecure rather than confident and convinced of their rights.

In this they reflect the sharp rise and rapid fall of tertiary education in the societies of Europe. In 1965, it was not difficult to convince parliaments of the need to allocate funds to expanding universities, indeed even a wild public could develop a certain enthusiasm for the creation of new universities and polytechnics; local communities were often proud to have them. In 1977, universities are pious as if their real income is only two per cent because they fully expected to have it cut by four per cent, and it is almost taken for granted that salaries for academics compare badly with those of other groups.

In consequence, tertiary education probably ranks with aid for developing countries as one of the most unpopular issues of political debate. In a very real sense, tertiary education has become a declining industry (if that is the word for places of the leisurely pursuit of learning).

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### Imperial launches effort to increase contract research

by Clive Cookson  
Imperial College is to make a major effort to increase its income from contract research, and to broaden the content of its undergraduate and postgraduate courses.

The rector, Sir Brian Flowers, has set up a professorial Advisory Group on Overseas Income to help achieve the first objective, his preliminary meeting agreed that "without losing sight of the college's role as a teaching institution, there is an urgent need to increase income from contracted research."

The college's research income from sources other than the University Grants Committee was £2,790,000 in 1975/76. This was 18 per cent of total income, compared with 22 per cent in 1972. Only £700,000 came from private industry, and only one-fifth of research profits are currently contract.

The group decided that a senior member of the academic staff should be given the job of "forging contacts with industry at the highest level and forming an effective focus of information concerning research opportunities." The decision was soon endorsed by the college's finance and executive committees.

His salary will be paid from sources outside the UGC block grant. Sir Brian's second initiative has been to set up a Committee on Academic Development with the following terms of reference:

● to review the form and content of undergraduate courses and in particular to consider the development of four-year courses and most of four-year courses and brooding course to include economics, management and languages;

● to advise on the extension of the sandwich course principle end on new first-degree qualifications (as suggested in the recent Commons select committee report on universities/industry relations);

● to consider the structure of postgraduate training, including a general broadening of its content and expansion of total technology and "teaching company" proposals.

### End certificate by 1979-ACSTT

The certificate of education should be phased out from September 1979, the Government's Advisory Committee on the Supply and Training of Teachers has decided. But it has delegated making the necessary arrangements to the Secretary of State because of anxiety about the fate of shortage subjects if this happens.

In a statement issued after their meeting last Thursday the committee said it would consider further what special measures needed to be taken to ensure a supply of teachers in such subjects as mathematics, music, handicraft, physics, business studies and remedial education.

The Government is known to be worried that the end of the certificate will create further problems in these subjects which are already short of teachers.

The National Association of Teachers in Further and Higher Education, on the other hand, is pleased that the certificate should be phased out as soon as possible. The association points to the many higher rate of unemployment among teachers with the certificate than among those with BEd qualifications.

This was highlighted in a recent report on unemployment among newly qualified teachers.

### Hudson goes south

Professor Liam Hudson, at present professor of educational sciences at Edinburgh University, has been appointed professor of psychology at Brunel University of psychology.

The author of many papers and books on educational and psychological issues, his most widely read publication is *Contrary Imagination: a study of the psychological factors distinguishing those school children who study sciences and humanities subjects*. He is to be appointed to the beginning of the 1977-78 academic year.

### Who controls HE?

A conference to examine who controls higher education has been organized by the University Teachers' Group in association with The Times Higher Education Supplement. It will be held at St Anne's College, Oxford, from April 1 to 3.

Among the speakers will be Mr Gerry Fowler, former Minister of State at the Department of Education and Science, Professor Max Blöchl, principal of University College Buckingham, Professor Brian Govenlock, professor of chemistry at Heriot-Watt, and a member of the University Grants Committee, and the Rt Hon Dr George Tooley, principal of Sheffield City Polytechnic.

The fee for the conference will be £25.00. Further details can be obtained from Mr David Hild, the UKTA conference organizer, at 38 Elmfield Road, Gosforth, Newcastle upon Tyne, NE3 4BB.

### Next week

Fred Inglis on British education  
P. J. Black on university education  
Peter Sheldrake on research in Australia  
Prospects for in-service training next year  
The future of the Rutherford Laboratory  
Nobel prizes  
Profile of Daniel Bell by Peter Scott  
Bryan Wilson reviews Wollis's study of science

### Large cash swing to social sciences

by Clive Cookson  
and David Walker  
The Social Science Research Council is to get a significantly larger slice of the Department of Education and Science's research budget in the coming financial year.

Its income for 1978-79 is expected to be £14.5m, 23 per cent more than the 1976-77 figure of £11.2m. This will probably represent a real rise of about 15 per cent when inflation is taken into account, but the SSCRC says that huge increases in postgraduate fees next October will also be with it. A per cent more is possible income.

The income of the remaining three research councils from the DES "science budget" will be approximately the same as this year. The Medical Research Council will receive £24.3m, the Natural Environment Research Council £29.5m and the Agricultural Research Council £20.4m.

All three rely on work commissioned by other Government departments for a considerable proportion of their income. The ARC is not an exception because of last year's support from the Department of Health (and an unfavourable change in the way it is assessed for VAT).

The ARC will receive an extra £24.2m from the Ministry of Agriculture—the same as this year—making a total income of £44.6m.

Although this SSCRC has to spend a much larger proportion of its income on postgraduate courses than its four sister councils, they too have considerable commitments in this area. When these are taken into account, it is clear that social science has come out on top in the division of the spoils.

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### Group urges halt to genetic engineering

WASHINGTON  
A three-day forum on recombinant DNA research organized by the National Academy of Sciences, got off to a controversial start last week when some of those taking part called for a halt to all further experiments in this field.

Dr George Wald, the Harvard University biologist and Nobel Prize-winner, together with Dr. Lobe Cavallari and other scientists, announced the getting up of a coalition for responsible genetic research (CRGR) which called for "an immediate international moratorium on all research that would produce novel genetic combinations."

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### Graduate employment Cooperation urged for 3,000 industrial jobs

Industry would have to offer an extra 3,000 to 4,000 jobs in graduate year to counterbalance the cuts in other sectors of employment, according to the Durium University Careers Advisory Service annual report for 1975/76. But it believes this is only likely to happen if there is considerable cooperation between Government, the universities and employers.

Many graduates from Durham went into industry (103) and commerce (131) last year compared with the year before (68 and 84) and lower into the public services (39 against 53 in 1975).

If the Government was serious in its intention to encourage more graduates to enter industry, then the present holding of the Manpower Services Commission and of some Government departments would need to be better aligned with this aim.

The Job Creation Programme regulations should be changed to make it possible for industry to comm-erco to initiate projects, it says. So far, the commission funds had been used almost entirely to provide jobs in the public service and voluntary organizations, TOPS awards, financed by the Training Services Agency, should be available to



Sir Samuel Curran—Britain unwilling to experiment.

### SISTERS likely to get cold shoulder—Strathclyde v-c

The idea of the elite Special Institutions for Scientific and Technological Education and Research (SISTERS) is unlikely to be adopted because of Britain's unwillingness to experiment, according to Sir Samuel Curran, vice-chancellor of Strathclyde University.

In his annual report for 1975/76 he says that when the idea was first raised by the Robbins Committee 13 years ago, Strathclyde was one of the universities proposed. At the time, however, it was not notably strong in postgraduate work and the Robbins Committee had envisaged the SISTERS having a substantial proportion (30 per cent) of students engaged on research.

But now, although the university could easily grow to the post-graduate strength it was unlikely the proposal will be adopted. Britain had shown very little insight into the nature of the infrastructure of modern industry unlike the United States, France and Germany which had always paid more attention to their leading technological institutions than Britain.

### TEC takeover of art and design courses

A new committee to validate vocational courses in art and design is to be set up under the control of the Technicians Education Council. The Government announced this week. Details of the scheme, which is expected to prove beneficial from some quarters, have been sent to 42 organizations connected with art or design education as a preliminary to detailed talks about the construction of the new body.

The organizations have been told that the format of the committee must have wide representation, not only among colleges, practitioners and the professional bodies representing art and design interests.

But a covering letter from the Department of Education to Sir Samuel Curran, that while the Business Education Council should be closely involved in consultation, about the new body it would, with safeguards, be built into the structure of the TEC.

The letter adds: "This would involve setting up a new committee for art and design, with a discipline place in the committee structure. Its membership should include a high proportion of practitioners in art and design areas from the main interested bodies."

The committee would consider and propose to the TEC any changes to its education policy which might be required for design programmes in art and design. It would also recommend the setting up of any additional committees or procedures deemed necessary, says the DES.

Mr Gerald Fowler, former minister of state overseeing higher education, announced in the House of Commons last July the Government's opposition to an autonomous body to validate art and design courses. He dispelled hopes set up on earlier proposals for a separate body for art and design, made by the Commons last July. The Government's opposition to an autonomous body to validate art and design courses, he said, was based on the fact that the TEC would be a body to validate art and design courses, but this will be at the expense of the pure sciences, Professor Horlock said.

### Industry awards will be few

The industrial scholarships announced by Mr Oakes, minister of state overseeing higher education, will be the Government's brightest and most attractive awards for undergraduates.

While discussions about the final number and the amount of the scholarships are still in the preliminary stages, the Government is anxious that they should be jointly sponsored by the DES and sections of industry.

Initial talks between the Confederation of British Industry, the TEC and the DES have taken place but will now be expanded. Individual firms will also be invited to give their views on the scholarship plan before any final details are given. An announcement is expected before Easter.

School leavers accepting places on both polytechnic and university courses will be considered for the scholarships. The DES reliance on specially designed engineering courses seems likely to refer to the University Grants Committee's recently announced scheme.

### Shoreditch should be saved, Newsam urges

The Inner London Education Authority should make every effort to preserve Shoreditch College, Epping, but Sidney Webb and Philippa Footman and Furzessan Colleges will have to close. These recommendations were made to the ILERA's Further and Higher Education sub-committee this week by Mr Peter Newsam, the authority's education officer.

His report says that, on balance, he believes the specialist courses at Furzessan and Shoreditch should be kept. He suggests that Sidney Webb, now part of the Polytechnic of Central London, should close rather than the education department at the Polytechnic of North London.

The reasons given are the lessening need for mature students—Sidney Webb recruits only mature students—and the longer period which

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the other department has had with the polytechnic.

For the future of Shoreditch, Mr Newsam sees three possibilities: must satisfactorily, its closure could be accepted as a rational responsibility and added to the ILERA's allocation; or the college could be linked with another institution; or, if all else fails, some of its places could be transferred to Avery Hill, Ealing.

As it is likely that the authority will be able to retain only one free-standing institution he says that Avery Hill should remain.

Mr Newsam says that it is with reluctance that he makes a recommendation for preserving Sidney Webb and Philippa Footman.

The report points out that Inner London's proportion of full-time teaching staff has declined from 5.3 per cent to 4.4 per cent by 1981.

### Private sector 'to take more' Two-thirds find work

The private sector is likely to recruit some 30,000 more graduates this year than last, Mr Kenneth Diddon, director of London University Careers Advisory Service, has predicted.

Over two-thirds of graduates from Haverhill Polytechnic gaining permanent jobs last year went into industry, according to a survey by the Hertfordshire Careers Service on the destinations of final year students.

In an article to be published in the university bulletin, he says this information may encourage final year students to flock to an unprecedented scale for interviews with employers.

Of all final-year students, 68 per cent went into permanent employment. Of these, 69 per cent went into industry and 18 per cent into the public sector. One in ten continued with further research or academic study.

He originally estimated that between 10 and 15 per cent of London University's first degree graduates last year would be unemployed at the end of the year but turned out to be over-optimistic.

Students who had the least difficulty finding jobs had completed courses in electronic engineering, computer science, mathematics and business studies.

Among higher degree students, only 2.5 per cent were unemployed at the end of the year compared with 3.2 per cent the year before.

Demand for graduates was likely to continue the swing from the public sector to the private sector, the careers service consultant said. National predictions showed an increase in demand from the manufacturing industry of 30 per cent over last year, while demand from the civil service and local authorities had fallen in the past two years by about 50 per cent.

### Cuts have 'almost eliminated' adult education in some areas

Adult education is being virtually eliminated in many parts of the country because of cuts in discretionary awards and increased fees, Dr Kath Hampson, vice-chairman of the Conservative parliamentary education committee, warned this week.

He told the Association for College Education at Ruskin College, Oxford, that a new estimate was needed in adult education, which could be created by a national development council for continuing education.

Dr Hampson predicted that the Government would announce details of its long-promised advisory council of Adult Education annual conference at Lancaster University in April. But he warned: "I emphasize that this body should be a development council and not merely advisory, which, after much heart-searching the Government is rumored to be planning."

The system needed an enabling mechanism which would act as a catalyst. "It would not take away local authority powers and initiatives but should have funds to check local development developments, promote cooperation and have the means to offer incentives to institutions and individuals to produce greater productivity.

Mr Gerald Fowler, former minister of state overseeing higher education, also expressed disappointment over the progress of the great debate. It had become industry to criticize the education system when

### Lord Vaizey raises moral issues of great debate

Teachers at all levels had the duty of reassuring moral absolutes during the present crisis of moral authority in Britain, Professor Lord Vaizey of Brunel University said in his Winifred Marcier Lecture at Whitehall, Westminster, at the weekend.

Lord Vaizey said the society was eating away at the foundations of British civilization and demanding from teachers and all those who influenced opinion the redemptory of their moral duty.

"The Great Debate which the Prime Minister has initiated is ultimately a truly great debate about truth, goodness, beauty and patriotism—old values, long scorned, which alone can restore some sense of dignity to our long-suffering people."

In these circumstances, he said, schools have an absolute duty to reassess their principles and to seek to combine the freedom and self-expression of children with a discipline of truth, honesty and social improvement.

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### April hearing for London Bill

London University's private Bill will be heard before a committee of the House of Lords on April 19 in the event of a difference between the university and the Association of University Teachers are resolved before that date.

At a meeting last week the university put forward certain proposals aimed at meeting some of the essential objections, now embodied in a petition before the Lords.

The Bill's passage through Parliament will be greatly delayed, as the case will be on the university, not the petitioners, to argue the case.

The AUTE is claiming that the Bill does not provide enough teacher representation on the university's Information and Advisory Service (MIAS) to deal with questions from any organization or private individual about the case.

Based at the Institute of Oceanographic Sciences at Wormley, Surrey, it is an extension of the old British Oceanographic Data Service,

### Dundee students stay in NUS

Dundee University students voted 890-480 to remain affiliated to the National Union of Students (NUS) in a referendum last week.

At Edinburgh representatives of St Andrews, Strathclyde and Edinburgh Universities and Napier College of Science and Commerce, met to discuss the autonomy of Scottish students within the NUS.

The Natural Environment Research Council has set up a new Marine Information and Advisory Service (MIAS) to deal with questions from any organization or private individual about the case.

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### Take training 'away from Law Society'

Articled clerks in London are urging that responsibility for the education and training of solicitors should be taken out of the hands of the Law Society and given to a newly established independent legal training board.

The 3,000-member London trainee solicitors group has made the controversial plea in evidence to the Royal Commission on Legal Services. It is also calling for the abolition of the College of Law and arguing that solicitors' vocational training should take place exclusively in universities and polytechnics.

The group says: "We feel that the Law Society has proved itself to be incapable of looking after the interests of articled clerks. It has inadequately organized the system of articles and the existing examination system."

It alleges that while the Law Society has financed ideas for the reconstruction of the training system in the past it has not been successful in persuading rank-and-file members to accept them.

Commenting on the present solicitors' examinations the group maintains that the College of Law's course providing for articled clerks, London and London is outdated. Classes are too large and should be entrusted to universities and polytechnics solely.

"The 24 universities and 19 polytechnics and technical colleges in England and Wales who in 1974 were asked to take on law degrees courses have built more facilities and lecturers capable of bearing the burden of providing 2,400 trainees for solicitors' examinations."

Last year the Council of the Law Society postponed plans to make its own examination of articled clerks in 1980. It also decided to delay for one year the introduction of a new Common Professional Examination, to replace the present Part I, and a new final examination, to be offered instead of the Part II qualifying examination. Courses leading to the new examinations, which introduced, will be offered by the College of Law and polytechnics.

The trainee solicitors now say they are opposed to the profession becoming anti-graduate. They also oppose the full-time college education of articled clerks for the Common Professional Examination, now likely to be introduced in 1978, but urge a compulsory one year course leading up to the final examination, expected to start in 1979.

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# Blocking of mobility an 'international problem'

by David Walker

Building barriers against foreign students by increasing tuition fees created a dangerous immobility in the international academic community, a conference celebrating the 25th anniversary of the German Academic Exchange Service's work in this country was told last week.

The president of the service, Professor Hansgerd Schulte, regretted that Britain was not alone in building barriers. The Germans were interpreting their 8 per cent quota policy increasingly restrictively and the French now enforced "unduly rigorous language aptitude tests" for foreigners. Moves to restrict academic exchange were a result of the bureaucratization of intellectual life, Professor Schulte declared.

The outlook was gloomy. There were dangers of a relapse into provincialism in university life. Academics might come to long for the mobility their ancestors enjoyed at the medieval universities near at their peak.

However, the work of bodies such as the exchange service and the British Council could promote mobility. Its programme of bringing to this country younger students of English language and literature who are being trained to become teachers of English was particularly successful. What was needed, in addition, was a clear commitment to in-

creased student mobility by the decision-makers.

"A clear and unanimous political decision by the respective authorities in the national parliaments as well as in the international organizations is needed. The likelihood of such decisions being taken rises largely upon the initiative and resolute action of the European universities, and their firm opposition to an irrevocable drift into a staid provincialism."

Professor Schulte's words were echoed by Herr Karl-Günter von Hase, the German Ambassador, shortly to leave Britain to become his country's representative with the European Commission in Brussels.

He praised the constitution of the German Academic Exchange Service (DAAD) which enables it to receive public funds while remaining a self-governing institution dedicated to promoting academic interchange and mutual cooperation between countries.

The service was established in the 1920s as the mechanism to take charge of liaison between German higher education and institutions abroad. Reformed after the Second World War, its brief is to act on behalf of the German Federal Authorities, the Länder and its own member universities on matters concerning German culture abroad, international policy for secondary and tertiary education and educational aid to developing countries.

# Probation period before training, lecturer urges

A radical proposal to reverse the order of teacher training for graduates is made in a recent issue of *The British Journal of Teacher Education*.

Mr R. L. Rieher, of Stackwell College of Education, suggests that graduates wishing to teach should seek a probationary appointment in a school immediately after graduating. Four days a week on unqualified pay would be spent in the school and the fifth day at a professional studies centre.

If this year were satisfactorily completed, the student would be selected for a course of initial training by a college or university department on the basis of the school's report and the advice of the professional tutor.

Mr Rieher says his proposal would achieve the James reports' insistence on the clarification of training objectives and it would give the profession more time to consult intending teachers.

"As the applicants would be more experienced, the selection procedure could concentrate on such dimensions as professionalism, personality and capacity to work with children of the particular age range.

If the pattern of postgraduate training were modified in this way the status split between different

branches of initial higher education would be healed, since competence as a teacher would be the criterion of selection for the course.

Mr Rieher's plan would mean the rundown of the BEd as an initial course of training. Instead, it could become the basic in-service degree for all post-initial training.

Another result would be that the professional studies schools of the reorganized colleges would be able to extend research into the theory and practice of education.

"The elements of a programme of reorganized colleges, particularly the development of combined degrees, in-service BEds and MAs."

The paper says that the Department of Education and Science is increasing that graduates entering initial training will exceed the intake of non-graduates by 1978. This is a change which the James committee could not have foreseen.

The *British Journal of Teacher Education* is published three times a year by Methuen. It is available on a subscription or as a copy. Mr Rieher's article is in Vol 2 No 3.

# Students forced into longer courses

by Judith Judd

Some polytechnic students are being forced to do four instead of two-year courses because they cannot get discretionary awards, Mr J. E. G. White, a lecturer at Wolverhampton Polytechnic, told a conference on modern language examinations problems that cuts in awards were having a "ridiculous effect".

Lecturers were having to advise students who wanted to do two-year vocational courses such as secretarial/linguistic ones that they would have to do four-year courses to get grants. At the same time colleges were being asked to run vocational courses.

Mr White also suggested that many career journals had played down too far the vocational value of modern languages in an attempt to disabuse them of the idea that they could all become world-class interpreters. Teachers should point out in all the other jobs in which lan-

guages were important such as export management, engineering, technical sales, law and librarianship.

On the subject of examinations for linguists Mr White said the great problem was their number and variety. Polytechnics had to deal with all sorts of language examination bodies all doing a good job within a limited range.

Some rationalization was necessary to bring the work of all these bodies and GCSE and A levels into a graded series of language tests from bottom to top.

Courses in polytechnics should show their "relevance" in a number of ways, through practical language courses, emphasis on language skills, compulsory residence abroad, and perhaps a non-literary rather than literary bias.

Mr C. Vaughan Jones of the Centre for Information on Language Teaching, defended A levels. He said "tinkering with it or abolishing it would not materially affect the situation of languages teaching."

# Ten asked to consider maths retraining

Ten institutions of higher education have been asked to consider running one-year retraining courses in mathematics.

Mrs Williams, Secretary of State for Education and Science, has asked the institutions to investigate the possibility of one-year courses for qualified teachers, including the newly qualified, who have been unable to get jobs.

"The courses are intended for teachers who have not previously specialized in mathematics but have at least an A-level qualification in the subject," she said.

Mr Jack Gull was speaking at a conference on management education organized by the Office for Management Studies and the Association of Regional Management Centres in Luton.

He said even if there was no further government legislation as a result of the Haddock Report on industrial democracy, the trade union movement was already firmly committed to shop steward education and favoured the further education sector to implement its programme.

In 1966 there were only 21 union courses in which 200 shop stewards and 122 industrial democracy lecturers had been trained. In the past two years the movement had doubled its funding on union courses and the TIC expected to double the number in the next two years.

Mr Gull said that in spite of initial suspicion, management studies departments would be expected to incorporate trade union studies into their courses.

But the introduction of such courses was something quite new in education. The TIC reserved the right, for instance, to select colleges for these courses, where staff were able to have the necessary experience. And it had introduced a new and very structured syllabus of

# Greater union interest in manager training forecast

by Jane Feinmann

Management studies departments in polytechnics and colleges of further education will have to widen their perspectives over the next few years to incorporate the training of workers as well as managers, according to a Department of Education spokesman.

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packages and teacher output: from the TIC college, Luton.

The conference also discussed a document on management development issued by the Trades Union Congress in January. It said the TSA put forward proposals for the agency to work with the education sector in developing training, while at the same time ensuring that the TSA had no say in the field of management development.

The training department of TSA was currently concerned with defining learning objectives and checking on their effectiveness.

Copies of the documents can be obtained from the TSA at 6 Regent Street, London W1R 8EJ and comments on it are welcome before April 11.

A working analysis of management development training in Luton last week at a conference in Luton organized by the Association of Teachers of Management.

Call for a wider dissemination of the teaching of management studies in colleges. Professor Charles West of the London Business School said that most European countries had no need for their managers to undergo special training. Most taught maths, statistics, and psychology as a matter of course.

# On the other hand

## The ascent of J.K.

At last a chance to see J. K. Galbraith without all those visuals that illustrate his every comment in the television series. (For instance, if he says "Good evening at you and get shepherd's pie at you and children playing happily by the hearth and contented choral noises as larks wing homeward.")

I followed him dutifully round a launching party for his book of the series, *The Age of Uncertainty*, to pick up a book and a couple of more vocational should be his language course was ill-fated.

Acceptance of the organic separability of educational and cultural elements alienated the major cause of the course's advanced levels.

The conference, at the Palace of Central London, was addressed by teachers, polytechnic lecturers, inspectors.

However, I must report that I am none too keen on being his Boswell. Notebook poised, you get the beginning of some trenchant cracks groping his way through Oxford doors of Quotations only in which it got diverted by some later-day non from Porlock who interrupts his train of thought.

For instance, I asked him what it was like being a cult figure and he replied, working up something really bright, "fame is like...". Suddenly a panic of journalists, having finished all the smoked salmon sandwiches and swallowed as much free alcohol as was medically possible before 11.30 am interrupted to ask a selection of the stereotyped questions which help to make our newspapers so boring to read. "Do you know Joe Haines?"

The class at intervals. "It is not entirely true to say... but he did not finish that either. Shirley Williams the education minister and arguably the shortest democratic thinker of our time was hovering somewhere around his knees waiting to greet the intellectual alibi."

"I did enjoy the series", she said, giving comfort to those of us who worry that a Cabinet minister's small talk might be more inspiring than yours or mine. The alp made a truncated reply before the newshounds moved back in with more of their silliness. "Do you know Marjorie Williams?", that class of inquiry, while the other two Williamses retreated to the sidelines of these shorter economic strategists, Lords Bologh and Kaldor.

An hour later he was entangling capes of his book. "What shall I write on this for Bologh?" he wrote on the flyleaf. "I put it: 'Best wishes J. K. Galbraith. No Mr Graugrath I don't believe we have met.'"

## Tolkienfest

Another drawback to being a cult figure is all the bizarre fan mail you have to answer as the current craze for Tolkien's books, letters and manuscripts at the National Book League shows. One exhibit is a lengthy letter from the author and former Oxford professor of philology to a Miss Sherring who had found his Tolkien copy of the Fifth Book of *The Lord of the Rings* to tell him so.

Yes, replied the inventor of Gandalf's garden, "the book certainly once belonged to me though I have no recollection of ever selling it". What gave the game away was his habit of inscribing books "Ragniwidua Dwalokomels" which is a gothicization of his name. In this and other details he shows himself a philologist at heart, particularly in the lengthy passage of that letter where he itemizes the interrelation between the languages of the Greeks and the Gorths.

But his talents did not stop there. The exhibition includes many ink and watercolour works which show that he could not only imagine a whole world and give it a new language, but also illustrate it. The meticulously drawn and brightly coloured sketches were initially done for his own amusement and only later did his publishers discover them.

The only creative sphere he did not explore was music, although even here he was peripherally involved. He collaborated in a song with the composer Michael Swanwick known for popular melodies concerning goss and gossam. "We worked together on some of the songs which appear in his work. I was fascinated by him as a writer

## Bore war victors

Not all novelties wear off. So, like Leeds University's most boring lecturer of the year contest, join the Boat Race and the Chancellor's eyebrows as national institutions, cherished ever more with the passing years.

Last week's contest was the third and they are clearly getting it down to a fine art. Lights were dimmed in the lecture hall to aid sleep and lullabies introduced the pygmalion-mad Mr. J. K. Galbraith.

Mr. J. K. Galbraith, a lecturer in French who clutched an immense teddy and had an endearing gleam in his eye only just this side of fruitcake.

The trouble was that the lectures were not boring, they meant there was a lot of people in Ron's house who are nothing whatever to do faced partner (whose importance could be judged from the amount he had brought around his jacket).

"You don't know Purton cricket team?"

Ron looked at his wife in a manner which suggested that until such time as the female psyche was brought to the absorption of King's end flow across the Atlantic he would not understand it.

"Why did you marry me?"

"For my next book", she said, trying to dislodge pieces of fruit from her back teeth.

"And how do you suppose that makes me feel?" asked Ron.

"Pretty dreadful."

"At this point our hero, Gavin Knocky, as the dog's add 'ill, you have to do it (cannot do everything for you) is written in enough credible doorstep hankey pankey to convince your reader that Gwin will soon be savouring life in a family extended to include Ron, Ramola, Purton cricket team, fan, illustrate children who paint beautifully, an old Chinaman who once sold jerrils in Tottenham Court Road but is now heavily into horizontalism, and a folk singer who is too sensitive to work to not crack those witless jokes of which only folk singers seem capable."

Willom Grant and Sons, the Scottish whisky distillers, are to give a Glasgow-based Rasseoch Fellowship in Scottish history at St Andrew's University. Mr David Grant, the marketing director, explained: "Mol whisky is the product of centuries of tradition and we hope the Glasgow falls will increase understanding of Scotland's heritage and of the factors which have moulded our national character." No comment. Cheers.



That interrupted Yehudi Menuhin to scorch for mistleed cufflink.

Another profitable tack is to have done any self-expressive doncing, and listen in disbelief as he outlines his early experience of the Gay Gordons at Ryde Golf Club socials.

In my novel Ron has married Dr Ramolo Greco, the best-selling novelist author of *Spaced Towards Aton A Bit*. (London reviewers agreed: "Greco is immediate, defiant, scaldingly intelligent and thank God, lives in north Yorkshire.")

They now have an extended family which means there are a lot of people in Ron's house who are nothing whatever to do faced partner (whose importance could be judged from the amount he had brought around his jacket).

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# Increase poly's role 'as bridge with industry'

by Sue Reid

Polytechnics play a vital role in providing a bridge between industry and education which could be expanded, Mr Leslie Hunkfield, parliamentary under secretary of state at the Department of Industry, told the London conference on the relationship between the polytechnics, industry and commerce, last week.

He said that polytechnics were in a unique position to co-operate with educationists and industrialists and called for the establishment of a "clearing house" within the polytechnics for the exchange of information between schools and factories.

In the current academic year there were 27,000 empty places on science and technology courses in colleges and universities but if the number of able applicants had continued to grow in the early 1970s and successful Government had provided the relevant resources there would now be more well-qualified engineers and technicians.

Mr Hunkfield added: "There is still capacity in the universities and polytechnics to take in more students in science and technology to meet the needs of industry. We need more of the right people applying."

In May, 1976, had shown that only 24 per cent of final year students wanted to enter industry or business. Of those who were likely to gain first-class degrees only 21 per cent were interested in industrial careers.

Mr Hunkfield suggested that Britain should reconsider the policy of allowing students to pursue the

subjects of their first choice. He posed the possibility of moving over to a policy of more guided choice so that the needs of the country and its manufacturing base were given more prominence.

"When we turn on eight sociologists and nine historians to every one production engineer from our universities and polytechnics something is very wrong with our higher educational priorities. Without more production and manufacturing we cannot afford more sociologists and historians."

"The need of our country at the moment is for educators and industrialists to get together. Industry can help teachers of mathematics and science to relate to industrial problems. Through this kind of liaison the importance of manufacturing and the wealth-creating role of industry can be underlined."

Earlier in the conference, attended by polytechnic representatives and industrialists, Mrs Williams, the Secretary of State for Education, noted the possibility of the Government introducing industrial scholarships to encourage specialization in science and technology.

She said: "There is an urgent need to attract more of our most able students into science and engineering courses, particularly those with a vocational bias."

"We must identify industry's needs and how best to meet them. We must encourage more young people to aim for a career in the wealth-producing industries on which this country's future so largely depends."

# New King's charter will be wasteful, Privy Council told

Proposals before the Privy Council to give King's College, London, a new charter have been attacked as sectarian and wasteful of public money by one of the college's senior academics.

Professor Hywel Lewis of the department of the history and philosophy of religion has complained to the Privy Council that the new college charter would involve religious bias.

Mr Lewis said that the charter which is organized on a non-denominational basis. The theological department's private funding from Church of England sources would cease as its teachers became a college and a UGC responsibility. The Rev Evans would continue as dean but his salary, for a quasi-academic office, would be found from private funds.

At issue is the incorporation into King's College of its theological department. Despite its name, since 1910 the has been a separate organization devoted mainly to training ordinands for the Anglican ministry. But the absorption of King's into the college's own research and teaching in religious studies, the person of the college dean who heads the theological department,

and the Anglican colouring of King's staff and students.

Following recommendations in the Murray Report on London Universities, and what the college dean, the Rev S. H. Evans, calls the "organic growth" of the theological department into King's proper, the new charter for King's proposes the departments' staff should be absorbed into its faculty of theology which is organized on a non-denominational basis.

The theological department's private funding from Church of England sources would cease as its teachers became a college and a UGC responsibility. The Rev Evans would continue as dean but his salary, for a quasi-academic office, would be found from private funds.

The college view is that the new theological faculty would be entirely non-denominational in the sense no religious tests would be applied to students or staff. Professor Lewis disagreed, arguing that the absorption of the theological department represents a subsidy to Anglicanism, and to be fair, such a subsidy ought to be extended to various non-conformist training colleges.

# The last picture course

Spending cuts have forced the Slade School of Fine Art, at University College London to close its post-graduate diploma course in film studies from next year.

The full extent of the cuts needed are not yet known, but Professor Lawrence Gowling, head of the Slade, feels that the high cost of the course is harming other activities which have been reduced to pay for it.

"It is a tragedy that the course should be in question," he said. "It is likely to have a demoralizing effect on students and teachers as it would be by any further cuts. Supporting the course will June, 1976, has already meant cutting expenditure on fine arts to a drastic level."

He added that the course contained only 7 per cent of the school's students but cornered 26 per cent of the cash.

The study of cinema began at the Slade in 1960 and the two-year taught diploma course was set up in 1967. In addition MPhil and PhD work has been carried out

from the beginning and is to continue.

The diploma course involves research and a large programme of screenings and seminars which are examined by written papers. It comprises a study of film history and theory as well as an in-depth exploration of various historical and theoretical topics.

The decision to end the course has angered Dr James Leashy, director of film studies at the Slade, who foresees a bleak future for the subject in the United Kingdom. "It is likely to have a demoralizing effect on students and teachers as it would be by any further cuts. Supporting the course will June, 1976, has already meant cutting expenditure on fine arts to a drastic level."

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# National insurance payments review

The Department of Health and Social Security is considering changes in the regulation concerning part-time lecturers and examiners and non-graduate payments.

The change now being considered by the National Insurance Advisory Committee would mean a part-time teacher or lecturer who taught four or more days in three consecutive months would be treated as an employee.

An examiner would be treated as self-employed if he were engaged on terms requiring him to finish the work under that engagement in less than 12 months, by a body responsible for conducting or administering examinations leading to a certificate, diploma, degree or professional qualification.

# Stirling holidays pay

Stirling University earned more from its conference and holiday trade last summer than any of the other 36 universities in the British Universities' Accommodation Committee.

The committee, which is responsible for the Stirling conference and holiday trade, has been appointed first vice-president of West Sussex Institute of Higher Education, which has been set up by the merger of Bishop Cleeve and Bishop Cleeve colleges. He will be appointed in September.

# Culham head for Sussex

Mr John Weynt, principal of Culham College of Education, Abingdon, has been appointed first vice-president of West Sussex Institute of Higher Education, which has been set up by the merger of Bishop Cleeve and Bishop Cleeve colleges. He will be appointed in September.



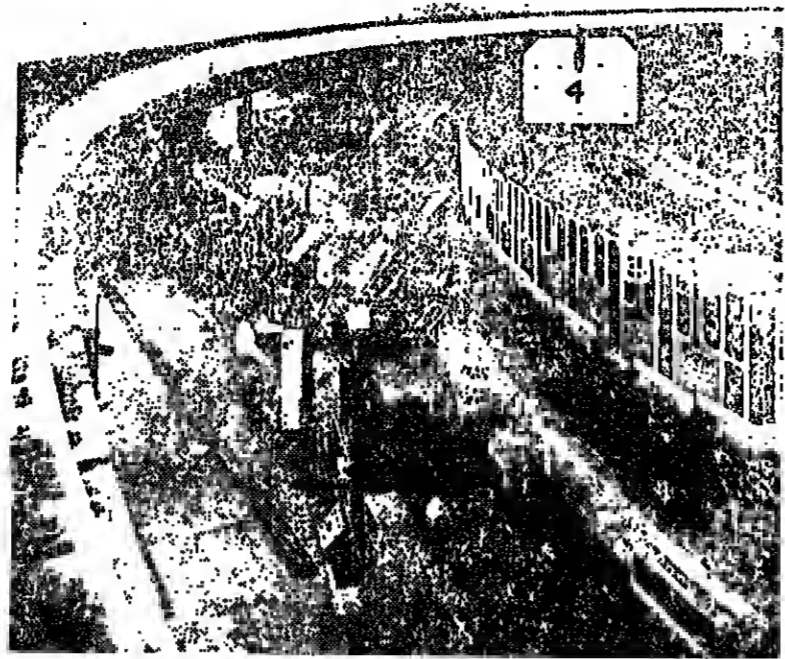




# High energy spirits get a boost from diversification

Clive Cookson describes new areas of research proposed for the threatened Rutherford laboratory

The rapid run-down of high energy physics research in Britain over the last few years has led to the closure of our last big accelerator, Nimrod, the 8 GeV proton synchrotron at the Rutherford Laboratory, in Oxfordshire. As Nimrod's demise approaches, however, spirits are rising at the Rutherford, home of the country's nuclear physics programme since 1957. They fell very low when last year's financial crisis forced the Science Research Council to announce a 1978 closure date for the accelerator, which had been due to keep going into the 1980s, and some physicists working on Nimrod remain upset that their experiments may never be finished. Other staff are becoming increasingly hopeful that the laboratory will survive relatively unscathed, thanks to a vigorous policy of diversification away from high energy physics, being pursued with strong support from the SRC, the Rutherford's parent body.



Inside the Nimrod accelerator. Due to close but conversion planned

changes that pressure home disease and mineralization, and clinical trials will soon start in Leeds. The flexible attitudes of the Rutherford scientists in contrast to some of their university colleagues are making diversification away from high energy physics relatively easy, Dr Timmas, head of the Technology Division, says. "We have only about 60 scientists who are dedicated to one particular field, for example nuclear physics or lasers. The really important resource we have is skilled applied scientists. We can put together multidisciplinary teams to tackle most problems in applied physics—something that universities are often very bad at." A major role for these teams is the design and production of large-scale experimental apparatus, especially for CERN. Examples include "polarized targets" for accelerators, whose temperatures must be kept within half a degree of absolute zero. The SRC is beginning to make money available for university engineers to use the Rutherford's excellent facilities, but it is proving difficult to get the academics interested. Rutherford scientists are sometimes discouraged by the narrowness of view and conservatism which came across in engineering departments, which find it difficult to accept that part of their work might be done better elsewhere—in contrast to nuclear physicists, who often regard the use of central facilities.

# White-collar age of Daniel Bell is nigh

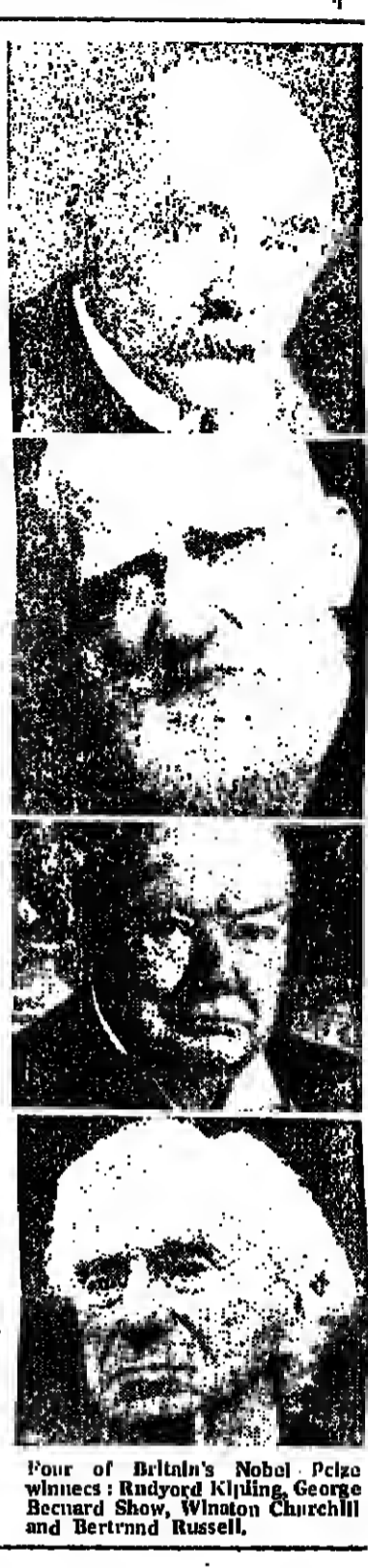
continued from page 7

creation of post-industrial societies, particularly influential in higher education, the power of the new order; the ideological shift from Joseph in Britain, the Futurism in the United States, powerfully entrenched interest groups within industrial society, most notably the trade unions; the main in the street, opposed to creeping bureaucratization; and perhaps most important of all, hundreds of millions in Asia, Africa and Latin America locked in industrial poverty. In a recent article in *Encounter* he wrote: "The new social realities are incalculable and it may be that they will be overwhelmed from within by the declining social classes who, with greater urgency are seeking to protect their old positions, and from without by the forces of the third world, a fifth world that find themselves economically disadvantaged in terms of trade." Yet he has an answer except to say "socially deeply irrational has been a factor in the world and we have not tried to describe it." This is the most important message in Daniel Bell's theory of post-industrial society. It is too of excluding and too instrumental to take on little account of the human factor, the determination of human values. Perhaps this is not a surprising fault in the author of the *Fant of Ideology*. To be fair Professor Bell, he has used his last book, *The Cultural Contradictions of Capitalism*, to remedy his weakness and to discuss the cultural implications and influences of social and economic development. He describes in *The Coming of Post-Industrial Society*, "So far he has not attempted to do the same for political power (except briefly in chapter six 'Who will rule?')."

# Mike Duckenfield examines the history of the Nobel Prize A wealthy vagabond's controversial legacy

The only thing new about last December's haul of protest over the decision to give Professor Milton Friedman one of the six 1976 Nobel prizes was that it extended controversy over the awards to economics. Disputes over the other prizes have become almost commonplace, recent eruptions accompanying Dr Kissinger and Pham Van Dong's shared 1973 peace prize and Alexander Solzhenitsyn's literature prize three years earlier. The prizes were born in controversy and, though Alfred Nobel died in 1895, it was not until 1901 that the first awards could be made. The institutes designated by his will to give the prizes did not want the job, both Swedish Conservatives and Social Democrat parties were hostile and King Oscar II thought the will impracticable. There were also problems of domicile. Although born in Stockholm, Nobel had spent most of his youth in St Petersburg and almost all the remaining period abroad in Hamburg, where he patented dynamite; Paris, his headquarters; San Remo, where he died; and Ardeer, Scotland, where he lived most of the years 1871-75. Known as "the wealthiest vagabond in Europe", Nobel at his death, owned 355 patents and more than 80 companies in 20 countries. His assets, which took four years to catalogue, amounted to 32.2m Skr at today's values about £40m. The largest single part was in Britain, where his factories were later merged with others to form ICI. His estate went into a fund. Annual interest from its investment is divided into five for the prizes in chemistry, medicine, physics, literature and peace. Last year these were each worth 681,000 Skr (£98,000)—tax free in most countries. To administer the fund a foundation was set up, three Nobel institutes were also established in Sweden—the Swedish Academy (literature), the Royal Caroline Institute (medicine) and the Royal Swedish Academy of Science (chemistry and physics). The Norwegian parliament is responsible for the peace prize. The selection of prizewinners is highly secretive. Nominations close on the first of February and are then considered during the spring and summer by five-man committees—one for each prize—appointed by the academies or, in the case of peace, elected by the Norwegian parliament. (At the time

of Nobel's death Sweden and Norway were a united kingdom.) As prize money has risen—and the status and commercial potential of the awards has increased, the academies have come rather to relish their unpopularity. In spite of criticism of their secrecy, the academies release no information on their deliberations, or the names of unsuccessful nominees. Only short, often vague "motivations" for the final choices are published and not even that for the peace prize. The less controversial prizes have always been those in medicine, physics and chemistry. Neither international politics interfere with the committees' choices and prizes are usually awarded before disputes about the application of research discoveries can arise. There were also problems of domicile. Although born in Stockholm, Nobel had spent most of his youth in St Petersburg and almost all the remaining period abroad in Hamburg, where he patented dynamite; Paris, his headquarters; San Remo, where he died; and Ardeer, Scotland, where he lived most of the years 1871-75. Known as "the wealthiest vagabond in Europe", Nobel at his death, owned 355 patents and more than 80 companies in 20 countries. His assets, which took four years to catalogue, amounted to 32.2m Skr at today's values about £40m. The largest single part was in Britain, where his factories were later merged with others to form ICI. His estate went into a fund. Annual interest from its investment is divided into five for the prizes in chemistry, medicine, physics, literature and peace. Last year these were each worth 681,000 Skr (£98,000)—tax free in most countries. To administer the fund a foundation was set up, three Nobel institutes were also established in Sweden—the Swedish Academy (literature), the Royal Caroline Institute (medicine) and the Royal Swedish Academy of Science (chemistry and physics). The Norwegian parliament is responsible for the peace prize. The selection of prizewinners is highly secretive. Nominations close on the first of February and are then considered during the spring and summer by five-man committees—one for each prize—appointed by the academies or, in the case of peace, elected by the Norwegian parliament. (At the time



Four of Britain's Nobel Prize winners: Rudyard Kipling, Percy B. Shaw, Winston Churchill and Bertrand Russell.

# Government must lead on in-service training

That is the conclusion of a THES survey into spending on this area, as Judith Judd reports

Mr Oakes, Minister for Higher Education, is likely to be disappointed in the fate of the £7m allocated in the care support grant to in-service training. A survey of county councils shows that few will be spending more this year than last. Almost everywhere there will be cuts in the number of teachers seconded and in some areas in other types of in-service training as well. The expansion of in-service training was the James Report's most important single recommendation and the chorus of voices demanding action has been growing louder ever since. The education world has been surprised and delighted by ministers' recent repeated commitment to the idea and by the decision to allow 10,000 places for in-service training in the colleges and polytechnics by 1980. But the important questions about both the distribution of money and the nature of the training have not been asked. How can the authorities be made to spend the money on in-service training rather than more popular forms? This has always been a notoriously sensitive subject for authorities. On the one hand they are the victims of the cuts in the Government and the education world; on the other, they must contend with public opinion which is often hostile to projects from which there is no obvious and immediate gain. In some counties, Mr Oakes's words have failed to prevent sizeable cuts. In Hereford and Worcester, the original proposals for in-service training were slashed by £55,000. The county in the Education Committee's proposals mean the county will be spending £156,000 in 1977-78 compared with £193,000 last year. In Hampshire the total spending has been cut from £394,700 to £683,100. East Sussex will trim £29,000. Nottinghamshire is a good example of a place where conflicting pressures are at work. A one-term and one-year secondments for teachers were suspended a year ago and will continue. The county has chosen to spend its money on the politically more popular course of upholding its pupil: teacher ratio. The big cuts, however, are not typical of the general picture, which is one of standstill. The most common response to a question asking how this year's figures compare with last year's is:

"They are the same." Authorities such as Lincolnshire, Northumberland, Avon, Cheshire are all in this category. Through a general view can be formed all the figures in the survey must be treated with caution. The financing of in-service training is complicated; authorities break down their costs in different ways and some were unable to break them down at all. Transport of teachers to courses may be shown as part of general transport costs rather than part of the in-service budget. It must also be remembered that some measure and part-time secondment is recoverable from the pool. An examination of the different categories of spending shows a fairly consistent pattern throughout the country. Mr Oakes has already accepted that local authorities will be unable to finance in-service training and that the tipped for expansion will have to come in part-time courses. Hence the attempts of colleges of education and polytechnics to develop part-time in-service BEs. Nearly Mr Oakes is right. Secondment is the victim of most of the budget cuts. In Warwickshire it will go down from £24,000 to £28,000, in Gloucestershire from £90,700 to £75,800, in Hertfordshire from £293,600 to £147,800, in Somerset from £21,460 to £19,070 and in North Yorkshire from £191,600 to £189,300. In some cases the drop is matched by a small increase on short courses: in Gloucestershire from £20,000 to £2,650; in Somerset, part-time secondment goes up from £4,500 to £4,550 and there are slight increases in money to spend on short courses both inside and outside the county. In Hertfordshire short courses will account for £175,900 in the coming year compared with £175,300 this year. The shift away from full-time secondment may not be disastrous provided adequate forms of in-service training are maintained. The purpose of training has always been twofold—the teacher's own personal development and the improvement of the institution he or she serves. Though the two are closely linked, full-time secondment has generally been associated with

the idea of a school-based training refreshment course. Duchian County Council suggested that the major fault in the survey was that it did not take into account school-based training "which costs nothing". But some of those involved in training argue that this is false. If school-based training is being done properly, teachers will have a fixed amount of time for each week which will be filled by other teachers. There are wide variations in school-based training, often depending on the determination of the head. Even where there is regular, organized consultation between staff, the results may be insignificant. The teachers' centres themselves seem to have escaped the worst cuts. Most authorities will be spending about the same amount on them, and a few will be spending a little more. Leicester has chosen to expand the work it does in them. There are plans for a new centre for higher level courses and an increase in spending from £70,590 to £280,785. But it remains untypical. In a survey begun recently by the National Association of Schoolmasters/Union of Women Teachers, its early findings show that provision is either being maintained or slightly decreased. Mr Fred Smith, Assistant General Secretary (Education) said the union would have expected to see an increase in the amount of money being spent on in-service training after the Government's announcement that £7m was earmarked for the purpose. The Government, too, is having serious doubts and is known to be considering ways in which it could ensure that money intended for in-service training actually reaches its destination. The National Union of Teachers has been pressing for such a grant for some time. The education world is the difficulty in treating it differently from other services. Whatever the objections, our survey shows that the Government must act if the promised expansion of in-service training is not to remain a mirage.

# Where Welsh trains and scientists never go

Reinforced has always been a feature of St David's College, Lampeter, Carmarthenshire, since it opened 150 years ago, but there is still no train service to it and the nearest big town, Carmarthen, is 20 miles away.

Lampeter is peculiar in another respect. It has only 600 students, the smallest—if the oldest—of the constituent colleges of the University of Wales. Yet in its setting, a tiny market town in the hills of Dyfed with only 2,500 inhabitants, it is a focal point. The college has wrongly been labelled a theological college. It was founded by Dr Thomas Burgess, Bishop of St David's, because of the low standard of education of Welsh clergy, but has always provided a general university education even when the majority of its students were ordinands. Lampeter's future as a university college was only recently secured when in 1961 it finally received University Grants Committee support. This was an uphill struggle fought by several college principals. The first blow came in the 1890s, when the setting up of the University of Wales. The Government withdrew its grant to the college, leaving it unable to support both it and the university. Another blow came in 1951, when the High Court decided that St David's could not be

rated as a university college on grounds since contested. Finally, with closure a real threat, the college received UGC funds, but under the aegis of the University College of Wales, Cardiff, which acted as its "academic guarantor". Not until 1971 was it formally admitted to the university as a constituent school in its own right. The second major change in the past few years has been the ending of its role in training students for the church, because of the fall in demand. Last summer, the last two ordinands passed out of the college, and in 1975 the first lay principal, Dr B. R. Rees, was appointed. But this has not meant the end of theology as a subject in the college, although its future is certainly under question. One of Lampeter's features is that it only has two faculties: both humanities. One is the faculty of arts, the other theology. The former embraces the bulk of the college's departments, including English, geography, history, languages, philosophy and even theology, which comes under both faculties. Rev Peter Morris, a theology lecturer, argues that it would be pre-

ferred to close the faculty now. A new role for it could exist in the area of in-service training for ordinands, for which there is demand throughout Wales. From such work a qualification comparable to the BE might develop. Smaller-scale other investments of Lampeter's floor, is on balance thought an advantage by staff and students. Students in particular have often chosen the college for its size, location and quietness. The main problems with such a small college, however, are arranging commercially viable entertainment and drawing up sports teams able to match the other colleges. They do not want active involvement in national student campaigns and members of the union executive stand on administrative rather than political platforms. Outside inter-collegiate "for instance" from the Welsh Language Society or other student unions, in what they regard as internal disputes is fiercely resisted. Feelings of "cultural and social deprivation", as one lecturer put it, are found more among junior lecturers, who are sometimes there more from necessity than choice.

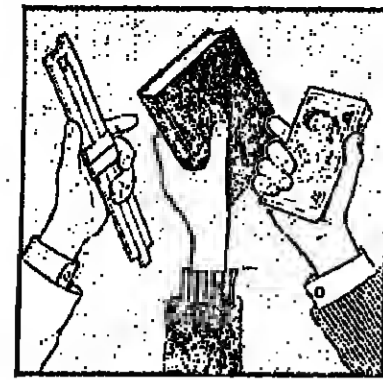
Although the college is arts-based, only some 70 staff there are only four women, perhaps a hangover from the all-male pre-1965 days. The student population is more evenly balanced. A high proportion of Lampeter's recurrent grant is however spent on the library. Its isolation means that it depends greatly on inter-library loans; last year over 4,000 books were borrowed from other libraries. But its own is expanding rapidly and has grown in the past five years by 30,000 volumes to 81,000. Apart from this, the college is well off for facilities. It has a new health centre, it can house 90 per cent of its students and it is about to start building a new block of self-contained flats. A geography laboratory is in the pipeline. Academically the trend is towards interdisciplinary studies, both in courses and posts. A lecturer in archaeology has recently been appointed, while a further role is to offer courses to several departments, and the newest degree course, in religion and ethics, in Western thought is interdisciplinary. In the long-term, according to Mr Kenwyn, department may be replaced by schools of related subjects, although this would mean reworking the whole position of heads of departments. For now, the college can do little more than look forward. As Professor D. S. Evans, of the Welsh department, put it, "there is nothing behind it but the fresh air of Ceredigion and the Anglican tradition." But with money trickling in from the UGC, even now its future as a college giving students something different from other uni-

versities can only be secured by the main problem for all expanding subject at present is the library, which was built to cater for only 450 students. Since the Aikinson report, Lampeter has had to change its plans for a new building to those for a store. Mr George Llwy, the librarian, says that since the college is arts-based, this is particularly vital because there is little "good wood".

St David's College, Lampeter, a small, but workable, college.

1000 1130





"Society has cruelly jilted pure science". P. J. Black looks at the problems this has raised for university science departments in the fourth of our series on education and industry

# Project work is one answer to dilemma of 'pure' science

Departments of pure science in higher education could be forgiven for regarding society as a fickle creature who has led them through a heart-breaking liaison in the past 20 years.

She was more than ardent in the decade of rapid expansion when their teaching and their research appeared to be loved for themselves alone. Directives of such a nature were committed to an equally ardent response, and the liaison promised to produce large student numbers and support for increasingly expensive research.

The lull has been peculiarly cruel and comprehensive, particularly in the physical sciences. There has been a fallow of student demand to match the increased provision of places, linked with a fickleness of the industry about the product expressed both by fluctuations in industrial recruitment for research and development, and by public expressions of doubt about the value of undergraduate—and more particularly postgraduate—degrees.

At the same time, pure scientific research has become increasingly expensive. The needs of several fields have exceeded the capacity of individual universities, or even nations, to support them, and more may follow this trend. To support the "big science" fields research staff were added to the hazy days of the already optimistic complement of teaching staff.

Today the combined effects of disenchanted industry, the student-staff ratio alone has left many departments under severe pressure to contract. In common with most institutions, such departments are finding it hard to develop strategies or tactics for contraction after investing years of effort in expansion.

Rapid growth leads to qualitative as well as to quantitative change. Academic subjects which are costly to support, and for which the short-term relevance to national needs is not direct, must expect to be targets for criticism when they become expensive enough to be noticed in the budget.

It is less often noticed that in school, sixth-form science subjects extract more than their share of the most able, and that the best of this élite tend to choose pure science degrees. This is a further, perhaps more important reason why society ought to ask the scientists to justify their ethos of teaching and research.



weight if the pure science curriculum is justified as a training of the mind, of value even for those who will not be research scientists.

Even if science lecturers accept, under the spell of the great debates, that the education they offer should serve productive industry, there is still difficulty in working out the implications of such acceptance.

For example, a physics lecturer will know that his final-year class will spread out to pure research, postgraduate training, teacher training, accountancy, management and so on, and he must reassure himself that what he has to offer has value to all of these occupations.

The dilemma here is whether to attempt more modest targets, and to face the paradox of cutting syllabuses drastically and so giving the appearance of having rather low level courses in order to improve the quality of graduates.

Apart from rising fears about status—only departments of high prestige could dare to do such things—there is a more fundamental difficulty. To attempt to trade range and sophistication for better deeper understanding and better application, and to do this on behalf of the less able undergraduates, involves assumptions about the best ways to use and develop students.

and with a tutor. This method has been used for several years in work on component skills in physics at Birmingham and has recently been taken up by several other physics departments.

The new criteria suggested above of banking for development of skills and attitudes, and of enhancing the student's responsibility for his own work—need a third in complete them, for the outstanding teaching resource is the staff.

A learning method should be provided for staff to be instructed by their students about the problems of learning, and by its potential for encouraging staff to show the skills and attitudes which they possess as practitioners of science.

Propositions to alter science education in various ways can be put forward unless producers, consumers and contentions debate among science lecturers and professors. Confusion often arises because of broader aims are interpreted in diverse ways.

Some argue the virtues of being able to choose something that is fancy—contemporary music will give as well as factory management in its purpose. Others look for a broader view of science as a human activity, and so require courses in the history, philosophy or sociology of science.

Neither of these scores high marks in the great debate about relevance to national survival, which calls for work on the role of science in industry and in producing industry.

Disension arises between those who regard some or all of them as valuable, those who see them as valuable, but out of place in the examined syllabus, and those who regard them as valuable, but outside their competence as teachers who must speak with scholarly authority.

There is no agreed answer, but I find it hard to see how pure science training can be justified by a pretence of providing a wide range of needs if we do not accept the duty of examining this pretension with our students. It is nothing to do with a powerful influence to do so we already have.

It may be possible to solve the difficulty of the staff's competence in any attempt to broaden education by cooperation with other universities, but it may also reflect the recruitment policies of the schools and colleges which they visit in their own subjects.

## European scientists back UK gene guidelines

While the public storm over gene transplant research and development continues this week in America at a major conference organized by the National Academy of Sciences, plans in Britain appear to be moving smoothly ahead in a much more restrained fashion.

But the American experience should not be too readily discounted as merely a reflection of cultural differences, and there are useful lessons to learn from a comparison of decision-making in each country, and from examination of the extent to which questions being raised on the other side of the Atlantic have found answers here.

In gene transplantation, recently discovered enzymes are used to cut sections of DNA from the cells of a donor organism, and splice these fragments into the DNA of a totally unrelated organism, the resulting hybrid genetic material being known as a "recombinant DNA molecule".

In this way, DNA fragments inserted into carriers such as plasmids (small circular pieces of DNA or bacterial viruses) can be transferred into the cells of recipient organisms such as bacteria. Bacteria implanted with foreign genes will reproduce those units as they multiply.

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## Quis custodiet custodes?

The capacity to create new forms of life seems to provide a technological power of a totally different order of magnitude from earlier forms of biological manipulation.

But it is now almost a truism that as the power to modify natural processes increases, so too does the power to disrupt them. Proponents and critics alike have recognized that possible "benefits" could turn into "costs" should newly-engineered organisms escape from the laboratory and, disrupt the balance of the biosphere, or infect its human components.

Although proponents often see such dire scenarios as highly unlikely, particularly if safety precautions are taken, some of genetic manipulation's distinguished critics do not agree. Dr Robert Sinsheimer, chairman of the biology division at the California Institute of Technology, for example, said last week:

I appreciate that very strenuous efforts will be made by means of physical and biological containment to keep the release of organisms considered to be of significant potential hazard. Considering all the unknowns of pathology and the uncertainty of evolutionary processes, I am not very confident we can know which are the more hazardous combinations. Nor, knowing human potential for genetic manipulation, can I feel much confidence that in the long run these plasmids and viruses and organisms will be contained, any more than were the deadly strains at Fort Detrick, or at another sphere of evolutionary process.

We need apply the same rigor and honesty to these questions that we apply to our sciences. Nature will be no more tolerant of our arrogant hypotheses.

At one level, the arguments on either side amount almost to who thinks who is best at playing God. And, also there is the body of experience to draw on to test opinions, this clash of values is reflected in uncertainty and sharp disagreement on such basic questions as the level of risk, and the effectiveness of containment.

Gene transplantation may also have a significant impact on the social relations of molecular biology. In their present degree of development, the techniques show working towards transcendental illumination and prepared to reach this goal through massive human sacrifice—a conspiracy as old as humankind.

The Illuminati founded the French and Russian revolutions, and are in control of Nazism, Stalinism, the Pentagon, and the political assassinations in America in the 1950s (to prepare the way for further law-and-order legislation) and are on the verge of provoking World War Three. Their principal opponent is Esigbort, a CIA operative, who was the twentieth-century Leonardo, who expounds his principles with Shavian panache to the bemused George Dorn.

The theory that the official history of society is a cover-up for the secret, shameful and consequently real history is one of the mainstays of nineteenth-century realism, above all in Stendhal and Balzac, in postwar American Fiction this became the idea of all-pervasive conspiracy, contractual and conditional, outrageous, thus neatly reflecting the paranoid quality of American politics from McCarthy to Watergate.

## 'Frankenstein' project given go-ahead in US

work in this area will proliferate before the risks have been properly characterized.

Given the uncertainty which surrounds critical aspects of genetic manipulation, there are good reasons to explore other alternatives for this emerging technology with care. However, if we are to make decisions taken in Britain, we find that explicit consideration of policy options has not yet taken place.

The Ashby committee was set up as a purely technical committee to evaluate costs and benefits. The Williams committee was charged with the drafting of a code of practice for research.

There seems to be a distinct policy gap that has so far not been filled by any formal body. As a result, some important questions remain to be considered. What, for example, is the potential for ecological disruption when these techniques are used on a massive scale in industry? What is the potential for deliberate misuse to biological warfare or terrorism?

Should universities inadvertently encourage either of those possibilities by treating an exponentially increasing number of students in the techniques? How will investment in a complex and hazardous technology damage investment in alternative and softer areas of research and development, either directly through competition or indirectly through the efforts required to ensure safety?

It is all sound familiar. These are the problems of high technology, which society is attempting to deal with in other fields, often after the fact of major disaster. Perhaps before yet another potent technology proliferates beyond control, this might be the right moment for major national commissions in each country to take a careful look at the world which genetic manipulation may bring about.

The author teaches the history of science and technology at the University of Michigan, and is currently carrying out research on the scientific decision-making in Britain.

David Kappagort as the dwarf Markoff Cheney.

The author lectures in English at Reading University.

## Campus heroes meet in a sci-fi embrace

Pat Parrinder reviews the Science Fiction Theatre of Liverpool's production of *Illuminatus!* at the National Theatre

How fitting that *Illuminatus!*, the opening production of the National Theatre's new "Tring" auditorium, should itself be full of illusions, rites, George Dorn, a Carl Bernstein-type investigative reporter, is introduced to the darker side of "sexual liberation in the canary jail of Mad Dog, Texas, and to its brighter side by the League of Dynamic Discard, whose practices include the full frontal penetration of a giant apple.

R. P. Drake, a future Syndicate boss, learns how to reap the reins of power through successive meetings with Carl Jung, Herman Hesse and H. P. Lovecraft, and the magic words to be used in the seminars of the dollar bill, the numerology of the number five (pentagram, pentacle, Pentagon), to a terrifying anthropological puppet-show and a black mass featuring an incontinent goat.

*Illuminatus!* By Ken Campbell and Chris Langham at the National Theatre's Cottesloe Theatre every Friday, Saturday and Sunday (2 pm until 10.30 pm) until March 27.



David Kappagort as the dwarf Markoff Cheney.

Zoology labs at Leeds University.











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workers who continue to push for more elegant theoretical foundations in a positivist tradition... The volume edited by Professor Messer is much more clearly structured...

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**UNIVERSITY COLLEGE CORK/UNIVERSITY COLLEGE DUBLIN**  
**RESEARCH ASSISTANT/DEMONSTRATOR DEPARTMENTS OF ENGLISH**  
 Applications are invited for two appointments as Research Assistant/Demonstrator to conduct field work for the Tape-Recorded Survey of Nibero-English Speech. One appointment will be made in University College, Cork and the other in University College Dublin.  
 Candidates should have an Honours Degree in English, Irish, Linguistics, or a related subject. The chosen candidate will undergo a brief course of instruction at the Queen's University Belfast, where they will be trained in the method of the Survey. The appointment will be for one year (1977/78) in the first instance. Salary will not be less than £1,100 per annum.  
 Applications for either of the appointments, together with the names of two referees, should be sent to:  
 Professor Alan Blum, Department of English, University College, Cork, Ireland, Dublin 4.  
 The closing date for receipt of applications is 31st March, 1977.

**ULSTER: THE NEW UNIVERSITY**  
**SCHOOL OF HUMANITIES**  
**SENIOR LECTURER IN LINGUISTICS**  
 Applications are invited for the post of senior lecturer in Linguistics which is available from October 1, 1977. Applicants should possess a higher degree in Linguistics and have experience of administration as well as of teaching and research. Salary scale £12,500-£22,000 p.a. plus 10% per annum.  
**SCHOOL OF HUMANITIES**  
**TEMPORARY LECTURESHIP IN ENGLISH LANGUAGE**  
 Applications are invited for the above post which is available from October 1, 1977. The post is available for one year, but a later commencing date may be arranged if necessary. Applicants should have specialist qualifications in English Language and a good knowledge of general linguistics. They should also be able to teach some part of the teaching of Grammar and the history of the English language.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
 Further particulars for both posts may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 8, 1977.

**UNIVERSITY OF NAIROBI - KENYA**  
 Applications are invited for the post of:  
**LECTURER in DEPARTMENT OF GEOLOGY**  
 Applicant must hold a PhD, have teaching, research and field experience and specialise in Mineralogy and Petrology. Salary Scale: £12,500-£22,000 p.a. plus 10% per annum.  
 The British Government is unlikely to provide sponsorship for these posts. FSSU: Family allowances, various allowances. Detailed applications should be sent by air mail not later than 20th April, 1977, to the Registrar, (Recruitment and Training), University of Nairobi, PO Box 20187, Nairobi, Kenya. Applicants resident in the UK should also send 1 copy to Inter-University Council, 50/51 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

**AUSTRALIA**  
**UNIVERSITY OF MELBOURNE**  
**TEMPORARY SENIOR LECTURER**  
**DEPARTMENT OF ECONOMICS**  
 Applications are invited for a temporary senior lecturer in the Department of Economics for one year from 1st March 1977 to 31st March 1978. The post is available for one year, but a later commencing date may be arranged if necessary. Applicants should have specialist qualifications in Economics and a good knowledge of general linguistics. They should also be able to teach some part of the teaching of Grammar and the history of the English language.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
 Further particulars for both posts may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 8, 1977.

**RICHMOND COLLEGE LONDON**  
 The Governors invite applications for the following posts to help develop an independent university college, which is to be based in Washington, D.C., and has a multi-national student body of 200.  
**HEAD OF FACULTY OF ENGLISH AND HUMANITIES** SALARY SCALE £5,500-£8,000  
 This is a key post offering scope for the development of courses in the Humanities. Duties include teaching 12 hours of English Literature courses per week, consulting students and supervising a large visiting staff. Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.  
**HEAD OF FACULTY OF BUSINESS, MATHEMATICS AND SCIENCE** SALARY SCALE £5,500-£8,000  
 Business Studies, Mathematics and Science form an important part of the work of the College. This post requires the holder to be a qualified teacher with a minimum of 12 hours of Business Studies courses per week, plus supervising students and supervising of both full-time and visiting staff. Candidates must have a third degree and a minimum of 5 years' experience of degree level teaching, preferably using the method, and course planning.  
**TUTOR IN MATHEMATICS** SALARY SCALE £4,500-£6,000  
 The tutor in Mathematics teaches 15 hours per week, plus supervising students and supervising of both full-time and visiting staff. Candidates must have a third degree and a minimum of 5 years' experience of degree level teaching, preferably using the method, and course planning.  
**TUTOR IN ENGLISH** SALARY SCALE £4,500-£6,000  
 The tutor in English teaches 15 hours per week of general English language courses, mainly written English in foreign students. Candidates must have a third degree and a minimum of 5 years' experience of degree level teaching, preferably using the method, and course planning.

**The British Council**  
 Invites applications for the following post:  
**PROFESSOR OF ENGLISH at the University of Qatar, Doha**  
 Salary **£17,270** a year tax free  
**Benefits:** Free furnished accommodation, car, air fares, free medical services, terminal grant, return first class air fare, annual passport paid leave, 3 year renewable contract guaranteed by the British Council.  
**Duties:** To teach English Language and/or Literature up to FCE level and to fulfil Head of Department duties.  
**Qualifications:** Must only PhD in English Language and/or American Literature is essential.  
 Please write, briefly stating qualifications and a list of 10-15 titles of books or articles, to the British Council (Appointments), 66 Davies Street, London W1Y 2AA.

**MOUNT ALLISON UNIVERSITY SACKVILLE, N.B., CANADA**  
 Applications are invited for an appointment in the Commerce Department to teach undergraduate courses in Accounting and Systems/Management Science. Rank open. Candidates must have a relevant higher degree with substantial teaching experience and preferably professional accounting qualifications as well.  
 Salary commensurate with qualifications and experience.  
 For further details please contact:  
 Professor David Hltham, 50 Broadgate Lane, Horsforth, Leeds LS18 4AG. Telephone: 0532 587795

**UNIVERSITIES CONTINUED**  
**SPAIN**  
**UNIVERSITY OF DEUFTO, BILBAO**  
**Lecturer in Linguistics and Language**  
 To lecture in Phonetics and Generative Phonology and teach English in the English Department.  
 Lectureship for one year, starting in October, with possibility of renewal.  
 Salary: approx. £5,000 net in pesetas (present rate of exchange).  
 Apply immediately, with telephone number, to Ivor Watson, Head of Department, Departamento De Inglés, Universidad De Deufto, Bilbao, Spain. (Bilbao 4453150.)

**UNIVERSITY OF NAIROBI KENYA**  
 Applications are invited for the post of:  
**SENIOR LECTURER IN ACCOUNTING**  
 Candidates must have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.  
**UNIVERSITY OF NAIROBI KENYA**  
 Applications are invited for the post of:  
**(a) PROFESSOR and (b) ASSOCIATE PROFESSOR IN DEPARTMENT OF LITERATURE.**  
 Applicants should hold a higher degree, preferably a doctorate, in a relevant subject. The holder of the post should be able to teach and supervise students at post-graduate level in the following subjects: African Literature; Oral Tradition; Caribbean and Afro-American Literature; Latin American and/or Iberian Literature from the 16th to the 19th century; European and American Literature; SALARY SCALE: £12,500-£22,000 p.a. plus 10% per annum.  
 Applications should be sent by air mail not later than 20th April, 1977, to the Registrar, (Recruitment and Training), University of Nairobi, PO Box 20187, Nairobi, Kenya. Applicants resident in the UK should also send 1 copy to Inter-University Council, 50/51 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

**THE UNIVERSITY OF NAIROBI-KENYA**  
 Applications are invited for the post of:  
**SENIOR LECTURER IN THE DEPARTMENT OF ZOOLOGY**  
 Applicants should be Zoologists with teaching and research experience in comparative physiology, phylogeny of parasites, cell biology, marine biology, immunology, or parasitology. The appointee will be expected to develop and teach a curriculum in the Department of Zoology. Salary Scale: £12,500-£22,000 p.a. plus 10% per annum.  
 Applications should be sent by air mail not later than 20th April, 1977, to the Registrar, (Recruitment and Training), University of Nairobi, PO Box 20187, Nairobi, Kenya. Applicants resident in the UK should also send 1 copy to Inter-University Council, 50/51 Tottenham Court Road, London W1P 0DT. Further particulars may be obtained from either address.

**BIRMINGHAM UNIVERSITY OF ASTON**  
**SCIENCE AND HUMANITIES**  
 Applications are invited for the post of:  
**ASSOCIATE PROFESSOR IN DEPARTMENT OF POLITICAL ECONOMY AND HUMANITIES**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.  
**UNIVERSITY OF ASTON**  
**SCIENCE AND HUMANITIES**  
 Applications are invited for the post of:  
**ASSOCIATE PROFESSOR IN DEPARTMENT OF POLITICAL ECONOMY AND HUMANITIES**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**BIRMINGHAM UNIVERSITY OF ASTON**  
**SCIENCE AND HUMANITIES**  
 Applications are invited for the post of:  
**ASSOCIATE PROFESSOR IN DEPARTMENT OF POLITICAL ECONOMY AND HUMANITIES**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**BIRMINGHAM UNIVERSITY OF ASTON**  
**SCIENCE AND HUMANITIES**  
 Applications are invited for the post of:  
**ASSOCIATE PROFESSOR IN DEPARTMENT OF POLITICAL ECONOMY AND HUMANITIES**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**ULSTER: THE NEW UNIVERSITY**  
**SCHOOL OF HUMANITIES**  
**TEMPORARY LECTURESHIP IN RUSSIAN**  
 Applications are invited for the post of Temporary Lecturer in Modern Languages (Russian) with special interest in modern literature from Pushkin to the present day. The post is available from October 1, 1977, for a period of two years.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
 Further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 29, 1977.

**ULSTER: THE NEW UNIVERSITY**  
**CHAIR OF SOCIOLOGY**  
 The Chair is tenable from October 1, 1977, in the School of Anthropology and Sociology within the School of Social Sciences. The holder of the Chair will also be Head of Subject. Candidates should be qualified in sociology or related disciplines.  
 Salary will be within the professional range (minimum £8,100 p.a.) with F.S.S.U./U.S.A.  
 Further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 22, 1977 (quoting Ref. 77/42).

**BIRMINGHAM UNIVERSITY**  
**FACULTY OF EDUCATION**  
**DEPARTMENT OF CURRICULUM, LITERATURE AND METHOD**  
 Applications are invited for the post of:  
**LECTURER IN EDUCATION**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**BIRMINGHAM UNIVERSITY**  
**FACULTY OF COMMERCE AND SOCIAL SCIENCES**  
**TEMPORARY LECTURESHIP IN MONETARY ECONOMICS**  
 Applications are invited for the post of Temporary Lecturer in Monetary Economics. The post is available from October 1, 1977, for a period of two years.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
 Further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 29, 1977.

**BIRMINGHAM UNIVERSITY**  
**FACULTY OF COMMERCE AND SOCIAL SCIENCES**  
**TEMPORARY LECTURESHIP IN SOCIOLOGY**  
 Applications are invited for the post of Temporary Lecturer in Sociology. The post is available from October 1, 1977, for a period of two years.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
 Further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting reference numbers) to whom applications, including the names and addresses of three referees, should be sent not later than April 29, 1977.

**BIRMINGHAM UNIVERSITY**  
**FACULTY OF COMMERCE AND SOCIAL SCIENCES**  
**TEMPORARY LECTURESHIP IN SOCIOLOGY**  
 Applications are invited for the post of Temporary Lecturer in Sociology. The post is available from October 1, 1977, for a period of two years.  
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**UNIVERSITY OF NEWCASTLE UPON TYNE**  
**JUNIOR RESEARCH ASSOCIATE**  
 Applications are invited from graduates in Humanities or Librarianship for appointment as a Junior Research Associate for a research project bibliography and bibliography. Work will include preparation of data for computer filing but no previous experience with computers is necessary. Ability in languages would be an advantage. The salary range is between £2,004-£4,190 per annum and the post is renewable, which will be for one year, with the possibility of extension as soon as possible, from a date to be arranged. The appointee may apply to register for a higher degree.  
 Applicants interested in a part-time appointment may also be considered.  
 Further details are available from Mr P. J. Wallis, Reader in Historical Bibliography of Education, School of Education, University of Newcastle upon Tyne, Newcastle upon Tyne NE1 7RU, to whom applications should be sent by March 29, 1977.

**BRISTOL THE UNIVERSITY**  
 Applications are invited for the post of:  
**LECTURER IN POLITICAL ECONOMY**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**BRISTOL THE UNIVERSITY**  
**TEMPORARY LECTURESHIP IN SOCIAL ADMINISTRATION**  
 Applications are invited for the post of Temporary Lecturer in Social Administration. The post is available from October 1, 1977, for a period of two years.  
 Salary scale (with FSSU/USL): £2,325 to £8,665 per annum. The appointment will normally be made within the first three points of the scale.  
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**LONDON THE UNIVERSITY**  
**CHAIR OF SOCIAL PHYSICS**  
 Applications are invited for the post of:  
**CHAIR OF SOCIAL PHYSICS**  
 Candidates should have a PhD or other post-graduate degree and have experience of higher level teaching and course planning.

**LONDON THE UNIVERSITY**  
**CHAIR OF SOCIAL PHYSICS**  
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**NEWCASTLE UPON TYNE**  
**UNIVERSITY OF NEWCASTLE UPON TYNE**  
**JUNIOR RESEARCH ASSOCIATE**  
 Applications are invited from graduates in Humanities or Librarianship for appointment as a Junior Research Associate for a research project bibliography and bibliography. Work will include preparation of data for computer filing but no previous experience with computers is necessary. Ability in languages would be an advantage. The salary range is between £2,004-£4,190 per annum and the post is renewable, which will be for one year, with the possibility of extension as soon as possible, from a date to be arranged. The appointee may apply to register for a higher degree.  
 Applicants interested in a part-time appointment may also be considered.  
 Further details are available from Mr P. J. Wallis, Reader in Historical Bibliography of Education, School of Education, University of Newcastle upon Tyne, Newcastle upon Tyne NE1 7RU, to whom applications should be sent by March 29, 1977.







Librarians continued

**THE POLYTECHNIC WOLVERHAMPTON**

### Assistant Librarian

Subject Adviser in the Humanities

A graduate, with library qualifications and experience, and an outgoing personality is required to provide bibliographical and information services and library education in the subject area, which is based in the new purpose-built main library.

Salary (equivalent to Borough Lecturer II grade) - £3279 - £5493 plus £212 stipendium.

Further particulars and application forms available from: The Establishment Officer, The Polytechnic, Wolverhampton WV1 1LY.

Announcement

**The British Library REFERENCE DIVISION**

### Temporary Closure of Main Reading Room

The main Reading Room in Bloomsbury, normally closed for one week at the beginning of May, will be closed for a further week from 30 April to 14 May inclusive for construction of a new reserved books area and improved photocopying facilities.

The Official Publications Library, accessible only from the North Entrance of the British Library, will be open on 30 April and 2-14 May, from 10 a.m. to 4.45 p.m. only, but accommodation and facilities are very limited and readers are asked to avoid using the library altogether during this period if possible.

The Map Library will be open on the same days as the Official Publications Library from 10 a.m. to 4.30 p.m.

The Students' Room of the Dept of Manuscripts and the Reading Room of the Dept of Oriental MSS and Printed Books will be open throughout the period as usual.

Administration

**LONDON, W.1**  
THE MIDDLESEX HOSPITAL  
Applications are invited for a **LIBRARIAN** position in the hospital library. The incumbent will be responsible for the day-to-day running of the library, which will include the receipt, processing, and issue of books, journals, and other materials. The incumbent will also be responsible for the maintenance of the library's collection and for the provision of reference services to staff and students. The incumbent will also be responsible for the management of the library's budget and for the recruitment and supervision of library staff. The incumbent will also be responsible for the maintenance of the library's premises and for the provision of a safe and comfortable working environment for library staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students.

**WINCHESTER**  
MINI ALPHASIA COLLEGE  
Applications are invited for a **LIBRARIAN** position in the college library. The incumbent will be responsible for the day-to-day running of the library, which will include the receipt, processing, and issue of books, journals, and other materials. The incumbent will also be responsible for the maintenance of the library's collection and for the provision of reference services to staff and students. The incumbent will also be responsible for the management of the library's budget and for the recruitment and supervision of library staff. The incumbent will also be responsible for the maintenance of the library's premises and for the provision of a safe and comfortable working environment for library staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students.

Librarians

**PLYMOUTH**  
COLLEGE OF ST MARK AND COLLEGE LIBRARIAN  
Applications are invited for the post of **LIBRARIAN** in the college library. The incumbent will be responsible for the day-to-day running of the library, which will include the receipt, processing, and issue of books, journals, and other materials. The incumbent will also be responsible for the maintenance of the library's collection and for the provision of reference services to staff and students. The incumbent will also be responsible for the management of the library's budget and for the recruitment and supervision of library staff. The incumbent will also be responsible for the maintenance of the library's premises and for the provision of a safe and comfortable working environment for library staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students. The incumbent will also be responsible for the provision of a high standard of service to staff and students.

Holidays and Accommodation

**INTELLECTUAL REFRESHMENT 1**  
Perhaps your home for one in etc. individually matched home schemes. America's finest - any duration. (All 50 States) - 1980 - 1981. Call: 1-800-525-6799.

Overseas

## OVERSEAS TEACHING POSTS

**HEAD, DEPARTMENT OF AIR CONDITIONING AND REFRIGERATION (Iran)**  
Jundi Shapur University, Ahwaz  
To establish, organise and manage a new department, and train lecturers. PhD and relevant Engineering qualifications with at least 5 years' experience. Salary: £11,500-£19,700 pa (approx). Benefits: Housing allowance. One-year contract renewable. 77 HU 14

**SENIOR LECTURER IN MEDICAL ENGINEERING (Iran)**  
Jundi Shapur University, Ahwaz  
To establish a new department, supervise technical staff and lecturers. PhD or MSc and at least 2 years' teaching experience. Salary: £10,750-£14,200 pa (approx). Benefits: Housing allowance. One-year contract renewable. 77 HU 15

**ENGLISH LANGUAGE TEACHER (Iran)**  
College of Naval Studies, University of Baluchistan, Chah Bahar  
To assist in the preparation of materials and to participate in the teaching of English and the monitoring of students' progress. Degree, TEFL qualification, experience of ESP and of direct teaching operation overseas. Salary: £5,426-£7,865 pa. Benefits: overseas and children's allowances; free accommodation; 2-year contract. 76 HU 113

**MATERIALS PRODUCER (ELT) (Oman)**  
Ministry of Education (English Department), Muscat  
To produce support materials and audio visual aids, to undertake in-service courses for teachers of English. Candidates, men only, must have a postgraduate ELT qualification, 3 years' overseas ELT experience, and some experience in production of A/V materials. Salary: £5,589-£5,618 pa. Benefits: free furnished accommodation; overseas and children's allowances; 2-year contract renewable. 77 AE 3

**TEACHER OF NUFFIELD PHYSICS TEACHER OF SMP MATHEMATICS TEACHER OF GENERAL SUBJECTS (Brazil)**  
St Paul's School, Sao Paulo  
Qualified teachers with at least 3 years' experience. Salary: £5,300-£7,500 pa. Benefits: overseas and accommodation allowances; medical scheme; superannuation; 2-year contract renewable. 77 PS 18-20

## THE BRITISH COUNCIL

**RYERSON**  
POLYTECHNIC INSTITUTE  
60 GOULD ST, TORONTO, ONTARIO M5B 1E8

### FASHION DEPARTMENT TEACHING POSITIONS

Full-time positions for September, 1977, are available in:

- Illustration/Graphic Design
- Introduction to Fashion
- Apparel Design/Production

Suitable candidates should possess advanced academic qualifications (a Master's degree), and teaching and/or practical experience.

Apply in writing, enclosing a resume, to The Dean, Applied Arts Division, Ryerson Polytechnic Institute, 60 Gould Street, Toronto, Ontario M5B 1E8.

Overseas continued

## HONGKONG POLYTECHNIC

### Professional Appointments - Joint Education Technology

The Polytechnic is committed in its development plans to the introduction of Education Technology and the use of Personalized Systems of Instruction (PSI) into its credit-unitary course structures.

The newly created Education Technology Unit contains a nucleus of permanent staff who work closely with the Academic Departments. In order to encourage and accelerate this work the Polytechnic is providing one "Associated Staff" appointment to each department in anticipation of its future permanent establishment. Such appointments will be on a two-year contract basis with the parent academic department and involve at least 50 per cent activity with the Education Technology Unit for a minimum period of one year.

Candidates who wish to be considered for these posts would have to be:

- (a) professionally qualified in the academic discipline of one of the Polytechnic departments; and
- (b) have proven ability in or commitment to some form of education technology development, preferably in the field of PSI. An education qualification would be an added advantage.

Commanding salaries will be dependent upon qualifications and length of previous experience but will not be less than HK\$38,040 p.a. (£24,615). In normal cases the maximum salary would be HK\$93,540 p.a. (£21,840), which is the maximum of this Senior Lecturer scale. However in exceptional cases an appointment may be offered at Principal Lecturer level, with a salary scale from HK\$85,500 (£10,822) to HK\$105,500 p.a. (£13,387).

[Note: March 1, 1977, HK\$7.90 equals £1]

Appointment will be on two-year gratuity-bearing contract terms initially. Thereafter suitable appointments may be offered further contracts or superannuable terms of service at the discretion of the Polytechnic.

The Polytechnic has 17 academic departments, these being Accountancy, Applied Science, Building and Surveying, Business and Management Studies, Civil and Structural Engineering, Computing Science, Design, Electrical Engineering, Electronic Engineering, Languages, Mathematical Studies, Mechanical and Marine Engineering, Naval Studies, Production and Industrial Engineering, Social Work, Textiles and an Industrial Centre.

Benefits include passages, long leave, subsidised accommodation, medical and dental treatment, educational allowances and a terminal gratuity equal to 25 per cent of basic salary received over entire contract period.

Further details and application form, which should be returned not later than March 31, 1977 (stating clearly area of academic interest), are obtainable from the Recruitment Unit, Teloc (Technical and Training Organisation for Overseas Countries), 36/37 Grosvenor Gardens, London SW1W 0BS. Tel: HKP/ET/THES.

## HONGKONG POLYTECHNIC

Department of Building & Surveying

### Senior Lecturer in Building Science

Applications are invited from degree holders, or others with equivalent qualifications and experience, in Physics, Chemistry, Building or Materials Science having:

- (a) at least five years' post qualification practical experience and
- (b) at least three years' teaching experience or
- (c) a combination of (a) and (b) and
- (d) proven administrative ability.

**SALARY SCALE:**  
HK\$69,420 to HK\$93,540 p.a. by six increments (£8,787 to £11,840 p.a.)

[Note: March 1, 1977, HK\$7.90 equals £1.]

Appointment will be on two-year gratuity-bearing contract terms initially. Thereafter suitable appointments may be offered further contracts or superannuable terms of service at the discretion of the Polytechnic.

Benefits include passages, long leave, subsidised accommodation, medical and dental treatment, educational allowances and a terminal gratuity equal to 25 per cent of basic salary received over entire contract period.

Further details and application form, which should be returned not later than April 2, 1977, are obtainable from the Recruitment Unit, Teloc (Technical and Training Organisation for Overseas Countries), 36/37 Grosvenor Gardens, London SW1W 0BS. Tel: HKP/THES.

## HONGKONG POLYTECHNIC

### A "REVIEW OF NEW COURSES" FEATURE

will be published on **Friday, April 1, 1977**

For further details of advertising please contact **John Ladbrock 01-837 1234**

## WESTERN AUSTRALIAN TEACHER EDUCATION AUTHORITY

Perth, Western Australia

Applications are invited from suitably qualified persons for the following positions:

**DEAN OF TEACHER EDUCATION CHURCHLANDS COLLEGE**  
The Dean will have primary responsibility for educational leadership, co-ordination and development of the School of Teacher Education within the College. The school embraces pre-service courses at Diploma level for teachers of primary and early childhood together with post-experience courses at graduate diploma and Bachelor of Education level.

**DEAN OF ACADEMIC STUDIES SECONDARY TEACHERS COLLEGE**  
The Dean will have primary responsibility for the educational leadership, co-ordination and development of the academic programme of the College. College courses embrace pre-service courses for secondary teachers at Diploma and graduate diploma level, post-experience courses for secondary teachers of Bachelor of Education level together with programmes in recreation and library.

**DEAN OF ACADEMIC SERVICES SECONDARY TEACHERS COLLEGE**  
The Dean will have primary responsibility for the planning, development and supervision of all services to support the academic activities of the College, including the co-ordination of support staff and of media systems, library services and data processing.

**QUALIFICATION AND EXPERIENCE**  
All positions call for high academic qualifications, preferably including qualifications in education, together with extensive administrative and teaching experience relevant to the position.

**SALARY AND CONDITIONS OF SERVICE**  
Appointments will be at Level I, Level II or Level III according to qualifications and experience of the Head of School designated under the senior recommendation for Colleges of Advanced Education, which carry salaries as of November 28, 1976, of \$A28,887 (£18,888 Sterling), \$A28,850 (£18,047 Sterling) and \$A27,812 (£17,388 Sterling). Conditions of service, superannuation, long service leave, study leave and sick leave are comparable to conditions prevailing in Universities and Colleges, throughout Australia.

**LOCATION**  
Churchlands College is located on a 64-acre site five miles from the centre of Perth. The College comprises a School of Teacher Education and a School of Business Studies with a total enrolment of some 1,800 students.

The Secondary College is located on a two-acre site adjacent to the University of Western Australia four miles from the centre of Perth. The College offers courses in teacher education, community recreation and library studies with a total enrolment of some 2,000 students.

Applications, Application forms, duty statements and conditions of service may be obtained from:

Migration Liaison Officer,  
Western Australia House,  
115 Strand, London WC2R 0AJ  
with whom applications close on April 15, 1977.

## QUEENSLAND AUSTRALIA

### CAPRICORNIA INSTITUTE OF ADVANCED EDUCATION, ROCKHAMPTON

### LECTURER IN EDUCATION (PSYCHOLOGY OF INSTRUCTION)

Department of Education Studies

Applicants must have an appropriate higher degree and major interests in the theories of teaching and instructional processes. A practical interest in micro-teaching, guided self-analysis and other forms of interactive feedback systems is required. Applicants should state other areas of interest and competence.

Current Lecturer Scale, \$11,861 to \$18,388 (Australian) per annum.

Appointments will be made either on a permanent basis or on contract for a two or three year term. Application forms and further information may be obtained from The Agency General for Queensland, 382 Strand, London WC2R 0JZ. Closing date, April 1, 1977.

## ADVERTISMENTS CLASSIFIED

To advertise in The THES phone **LORRAINE WILLIAMS 01-837 1234** Extn 575

The Times HIGHER EDUCATION Supplement  
New Printing House Square  
P.O. Box 7  
Gray's Inn Road  
London WC1X 6EZ

## ECOLE SUPERIEURE DE COMMERCE

Le Havre, France

To complete the existing team of English teaching staff in the above school, applications are invited from qualified teachers for the position of:

### English Language Teacher (TEFL, ESP)

The successful applicant (aged 25-35) will possess a fair command of French and have some experience in teaching business English to students (19-23) and/or adults either in Britain or overseas. In addition to a 14-hour teaching commitment he/she will be expected to join in the current research and development of new material for publication and help in the running of the department of modern languages.

Initial engagement for one full year starting 1st September, 1977.

Starting salary: 3,200 FF per month negotiable according to candidate's experience and qualifications.

Personal interview and of April or beginning of May either in London or Le Havre.

Write, with full C.V., to: **Michal Poté**  
Departement d'Anglais  
Ecole Supérieure de Commerce  
3 rue Exalle, Z.I.  
76090 - Le Havre-Cedex, France